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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/821,902

04/09/2004

Peter Leonard Hutchison

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EXAMINER

KRISHNAN, MALINI

ART UNIT

PAPER NUMBER

1714

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/821,902	<b>Applicant(s)</b> HUTCHISON, PETER LEONARD	
	<b>Examiner</b> Malini Krishnan	<b>Art Unit</b> 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 5/14/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Reference number 17 in figure 2, and reference number 119 in figure 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities:

The sentence beginning on line 23 of page 1 is missing a term to define what comprises "a mixture of sawdust and a binding agent."

Reference number 15 is used to describe both flanges and a metal ingot on lines 11 and 13 of page 3.

There is no corresponding number in any figure to reference number 21 described on line 20 of page 3.

Reference number 111 on line 27 of page 3 and lines 4 and 7 of page 4 seem to correspond to number 11 of figure 4.

Reference number 13 described on line 11 of page 4 should be number 113.

Appropriate correction is required.

***Claim Objections***

3. Claim 12 is objected to because of the following informalities: The claim does not specify on which claims it depends. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 recites the limitation "the composition" and "the sawdust" in lines 1 and 2 respectively. There is insufficient antecedent basis for this limitation in the claim. It is the examiner's position that claim 7 should be dependent of claim 5, and is hereafter treated as such.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-4, 5-7, 12, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCullough ('493), hereinafter referred to as McCullough, in view of Farjon ('365), hereinafter referred to as Farjon.

McCullough discloses a fireplace grate, acting as a containment vessel, made of steel, which is placed in a fireplace and holds a plurality of logs. The vessel has an opening providing restricted communication between the interior and exterior of the vessel (Col. 2, Claim 1, Fig. 1). With regard to instant claims 14 and 15, the containment vessel of McCullough can be viewed as a section of a rectangular tube, having one open end. Therefore, it is the examiner's position that McCullough's vessel satisfies the limitations imposed by claims 14 and 15, having one open end and one partially closed end.

McCullough is silent with respect to the interior of the vessel containing a soot removal agent.

Farjon discloses a soot removal agent, which comprises three components: a solid particulate combustible cellulosic material, such as sawdust, a soot disaggregating

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agent, and a binder. This composition will harden and will be consumed slowly upon being placed in a fire. Additionally, it controls and restricts the combustion of the sawdust when placed in a fire (Col. 2, lines 45-57; Col. 3, lines 8-11; Col. 4, lines 10-30). The soot disaggregating agent can be any agent known to remove soot (Col. 3, lines 18-30). The three components can be formed into any solid desired shape, such as a cylinder or log, wrapped in a containment vessel, and is used by placing into a fireplace or stove and igniting (Col. 4, lines 28-50).

With regard to instant claim 4, it is the examiner's position that placing Farjon's soot removal agent, in the form of a log, in the containment vessel would act as a closure of the vessel opening, made of material that would be consumed slowly upon being placed in a fire.

Since the vessel of McCullough is meant to hold logs in a fireplace, Farjon's soot removal agent, which is formed into a log, can be placed into the vessel. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to utilize the soot removal agent of Farjon as the logs held in the vessel of McCullough.

9. Claims 8, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCullough in view of Farjon, and further in view of Mackowiak ('010), hereinafter referred to as Mackowiak.

Both McCullough and Farjon are silent with respect to the soot removal agent being selected from zinc, tin, aluminum or any combination thereof, and the soot

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removal agent comprising a quantity of particles and/or granules, and (ii) the soot removal agent formed as an ingot.

Although the soot disaggregating agent of Farjon is not specifically defined as zinc, tin, or aluminum, it is the examiner's position that zinc or tin are agents "known to remove soot". Attention is drawn to Mackowiak, who discloses a soot removal agent composition, which has reduced corrosive effects on metal surfaces and can be stored, maintaining its "free flowing state for ease of use." The composition comprises particles of zinc or tin and is used by adding onto a fire of a wood-burning stove (Col. 1, lines 42-45; Col. 2, lines 20-27; Col. 3, lines 63-65; Col. 4, lines 36-40).

With respect to (i) above, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to utilize the zinc or tin particles of Mackowiak as the soot-disaggregating agent of Farjon because they are known agents capable of removing soot.

With respect to (ii) above, it is the examiner's position that it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the zinc or tin of Mackowiak in the form of an ingot as the soot removal agent of Farjon, since Farjon's soot removal agent is formed as a solid block.

10. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCullough in view of Farjon, and further in view of Crone ('024), hereinafter referred to as Crone.

The discussions of McCullough and Farjon in paragraph 8 above are herein incorporated by reference.

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Neither McCullough nor Farjon disclose the soot removal agent being coated on a metal foil/sheet substrate.

Crone discloses a catalytic article formed by coating a metal sheet with alumina, which has advantages over other coated substrates by being more efficient (Col. 1, lines 55-68).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to combine the teachings of McCullough, Farjon, and Crone in order to produce a soot-removing device having the soot removal agent coated on a metal sheet, which would prove to be more efficient in the reaction of reducing soot.

***Allowable Subject Matter***

11. Claims 16-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



**Conclusion**

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Malini Krishnan whose telephone number is 571-272-6519. The examiner can normally be reached on Monday through Friday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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